

Tim Mehringer
Lithonia Lighting
1615 East Elmore Street
Crawfordsville, Indiana 44933

Re: Registered Construction and Operation Status,
107-12829-00037

Dear Mr. Mehringer:

The application from Lithonia Lighting, received on October 6, 2000, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following metal lighting fixture manufacturing and coating source, to be located at 1615 East Elmore Street, Crawfordsville, Indiana, is classified as registered:

- (a) One (1) pyrolysis cleaning oven, identified as A4, controlled with an afterburner and exhausting to Stack A4, rating increasing from 0.35 to 0.95 million British thermal units per hour in December 2000, capacity: 20 pounds of metal parts per hour.
- (b) One (1) natural gas-fired air make-up unit, identified as A1, exhausting to Stack A1, rated at 1.925 million British thermal units per hour.
- (c) One (1) natural gas-fired air make-up unit, identified as A2, exhausting to Stack A2, rated at 2.0 million British thermal units per hour.
- (d) One (1) natural gas-fired air make-up unit, identified as A3, exhausting to Stack A3, rated at 2.0 million British thermal units per hour.
- (e) One (1) natural gas-fired air make-up unit, identified as B1, exhausting to Stack B1, rated at 1.944 million British thermal units per hour.
- (f) One (1) natural gas-fired air make-up unit, identified as B2, exhausting to Stack B2, rated at 1.646 million British thermal units per hour.
- (g) One (1) natural gas-fired air make-up unit, identified as B3, exhausting to Stack B3, rated at 1.5 million British thermal units per hour.
- (h) One (1) water treatment burner, identified as A5, exhausting to Stack A5, rated at 2.5 million British thermal units per hour.
- (i) One (1) water treatment burner, identified as A6, exhausting to Stack A6, rated at 3.8 million British thermal units per hour.
- (j) One (1) bake oven, identified as A7, exhausting to Stack A7, rated at 3.5 million British thermal units per hour.
- (k) One (1) drying oven, identified as A8, exhausting to Stack A8, rated at 2.0 million British thermal units per hour.

- (l) Six (6) metal inert gas welding stations, capacity: 1.7 pounds of wire per station per hour and a total of 1,500 pounds of sheet metal per hour.
- (m) One (1) powder paint line, consisting of three (3) application booths, installed in March 1986, capacity: 347,000 pounds of powder paint per year.
- (n) One (1) roll coating process, beginning operation in June of 1987, capacity: 170 metal parts per hour.

The following conditions shall be applicable:

- (a) Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following:
 - (1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.
- (b) Pursuant to 326 IAC 4-2-2, the one (1) controlled pyrolysis cleaning oven shall:
 - (1) Consist of primary and secondary chambers or the equivalent;
 - (2) Be equipped with a primary burner unless burning wood products;
 - (3) Comply with 326 IAC 5-1 and 326 IAC 2;
 - (4) Be maintained properly as specified by the manufacturer and approved by the commissioner;
 - (5) Be operated according to the manufacturer's recommendations and only burn waste approved by the commissioner;
 - (6) Comply with other state and/or local rules or ordinances regarding installation and operation of incinerators;
 - (7) Be operated so that emissions of hazardous material including, but not limited to, viable pathogenic bacteria, dangerous chemicals or gases, or noxious odors are prevented;
 - (8) Not emit particulate matter in excess of five-tenths (0.5) pounds of particulate matter per one thousand (1,000) pounds of dry exhaust gas at standard conditions corrected to fifty percent (50%) excess air; and
 - (9) Not create a nuisance or a fire hazard.

If any of the above result, the burning shall be terminated immediately.

- (c) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the one (1) powder paint line shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

- (d) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the six (6) welding stations shall not exceed 3.38 pounds per hour when operating at a process weight rate of 1,500 pounds per hour.

This limitation is based on the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

This registration is a revised registration issued to this source. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Quality that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.5-4(a)(3). The annual notice shall be submitted to:

**Compliance Data Section
Office of Air Quality
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015**

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

EAL/MES

cc: File - Montgomery County
Montgomery County Health Department
Air Compliance - Eric Courtright
Permit Tracking - Janet Mobley
Air Programs Section - Michele Boner
Office of Enforcement

Registration Annual Notification

This form should be used to comply with the notification requirements under 326 IAC 2-5.5-4(a)(3)

Company Name:	Lithonia Lighting
Address:	1615 East Elmore Street
City:	Crawfordsville, Indiana 44933
Authorized individual:	Tim Mehringer
Phone #:	765 - 362 - 1837
Registration #:	107-12829-00037

I hereby certify that Lithonia Lighting is still in operation and is in compliance with the requirements of Registration **107-12829-00037**.

Name (typed):
Title:
Signature:
Date:

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Registration

Source Background and Description

Source Name:	Lithonia Lighting
Source Location:	1615 East Elmore Street, Crawfordsville, Indiana 44933
County:	Montgomery
SIC Code:	3645
Operation Permit No.:	107-12829-00037
Permit Reviewer:	Edward A. Longenberger

The Office of Air Quality (OAQ) has reviewed an application from Lithonia Lighting relating to the operation of a metal lighting fixture manufacturing and coating source.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

- (a) One (1) pyrolysis cleaning oven, identified as A4, controlled with an afterburner and exhausting to Stack A4, rating increasing from 0.35 to 0.95 million British thermal units per hour in December 2000, capacity: 20 pounds of metal parts per hour.

Note: The two (2) spray booths permitted pursuant to 54-04-93-0168, Control No. 20516, issued in 1988 were dismantled prior to December 2000.

Unpermitted Emission Units and Pollution Control Equipment

The source also consists of the following unpermitted facilities/units:

- (b) One (1) natural gas-fired air make-up unit, identified as A1, exhausting to Stack A1, rated at 1.925 million British thermal units per hour.
- (c) One (1) natural gas-fired air make-up unit, identified as A2, exhausting to Stack A2, rated at 2.0 million British thermal units per hour.
- (d) One (1) natural gas-fired air make-up unit, identified as A3, exhausting to Stack A3, rated at 2.0 million British thermal units per hour.
- (e) One (1) natural gas-fired air make-up unit, identified as B1, exhausting to Stack B1, rated at 1.944 million British thermal units per hour.
- (f) One (1) natural gas-fired air make-up unit, identified as B2, exhausting to Stack B2, rated at 1.646 million British thermal units per hour.
- (g) One (1) natural gas-fired air make-up unit, identified as B3, exhausting to Stack B3, rated at 1.5 million British thermal units per hour.

- (h) One (1) water treatment burner, identified as A5, exhausting to Stack A5, rated at 2.5 million British thermal units per hour.
- (i) One (1) water treatment burner, identified as A6, exhausting to Stack A6, rated at 3.8 million British thermal units per hour.
- (j) One (1) bake oven, identified as A7, exhausting to Stack A7, rated at 3.5 million British thermal units per hour.
- (k) One (1) drying oven, identified as A8, exhausting to Stack A8, rated at 2.0 million British thermal units per hour.
- (l) Six (6) metal inert gas welding stations, capacity: 1.7 pounds of wire per station per hour and a total of 1,500 pounds of sheet metal per hour.
- (m) One (1) powder paint line, consisting of three (3) application booths, installed in March 1986, capacity: 347,000 pounds of powder paint per year.
- (n) One (1) roll coating process, beginning operation in June of 1987, capacity: 170 metal parts per hour.

New Emission Units and Pollution Control Equipment

There are no new facilities proposed at this source during this review process.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

54-04-93-0168, Control No. 20516, issued in 1988.

All conditions from previous approvals were incorporated into this permit except the following:

54-04-93-0168, Control No. 20516, issued in 1988

Conditions 5 and 6: The quantity of paint and solvent content as percent volatile organic compounds (VOC) by weight, be such that the VOC emissions from the new painting operation (spray booth) shall not exceed 24.9 tons per year without prior approval from the Office of Air Quality. Maintain logs to show compliance with this limit. Quarterly summaries shall be submitted.

Reason not incorporated: The spray booth has been dismantled.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
A-1	Air Makeup Unit	30	0.75	400	110
A-2	Air Makeup Unit	30	0.75	400	110
A-3	Air Makeup Unit	30	0.75	400	110

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
A-4	Pyrolysis Cleaning Oven	32	1.0	550	250
A-5	Water Treatment Burner	35	1.0	550	150
A-6	Water Treatment Burner	35	1.0	550	150
A-7	Bake Oven	35	1.0	550	170
A-8	Drying Oven	35	1.0	550	170
Weld	Six (6) Welding Stations	22	1.5	1,500	85
B-1	Air Makeup Unit	12	0.75	400	110
B-2	Air Makeup Unit	12	0.75	400	110
B-3	Air Makeup Unit	12	0.75	400	110

Enforcement Issue

- (a) IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled *Unpermitted Emission Units and Pollution Control Equipment*.
- (b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

Recommendation

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on October 5, 2000, with additional information received on December 21, 2000, January 12, 2001 and February 1, 2001.

Emission Calculations

See pages 1 through 5 of 5 of Appendix A of this document for detailed emissions calculations.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	18.7
PM ₁₀	19.3
SO ₂	0.172
VOC	8.54
CO	9.18
NO _x	10.5

HAPs	Potential To Emit (tons/year)
Benzene	0.0002
Dichlorobenzene	0.0001
Formaldehyde	0.008
Hexane	0.187
Toluene	0.0004
Lead Compounds	0.00006
Cadmium Compounds	0.0001
Chromium Compounds	0.0005
Manganese Compounds	0.002
Nickel Compounds	0.0002
TOTAL	0.199

- (a) The potential to emit (as defined in 326 IAC 2-5.1-2) of PM, PM₁₀, VOC, and NO_x are less than twenty-five (25) tons per year and greater than five (5) tons per year and/or ten (10) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-5.5.
- (b) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 1994 OAQ emission data.

Pollutant	Actual Emissions (tons/year)
PM	0.000
PM ₁₀	0.000

Pollutant	Actual Emissions (tons/year)
SO ₂	0.000
VOC	0.000
CO	0.000
NO _x	0.000
HAPs	None reported

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs
Natural Gas Combustion	0.198	0.791	0.062	0.572	8.74	10.4	0.197
Welding Operations	1.08	1.08	0.00	0.00	0.00	0.00	0.002
Pyrolysis Cleaning Oven	0.307	0.307	0.110	0.131	0.438	0.131	0.00
Roll Coating	0.00	0.00	0.00	4.38	0.00	0.00	0.00
Powder Paint	17.1	17.1	0.00	3.46	0.00	0.00	0.00
Total Emissions	18.7	19.3	0.172	8.54	9.18	10.5	0.199

County Attainment Status

The source is located in Montgomery County.

Pollutant	Status
PM ₁₀	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Montgomery County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Montgomery County has been classified as attainment or unclassifiable for remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	18.7
PM ₁₀	19.3
SO ₂	0.172
VOC	8.54
CO	9.18
NO _x	10.5

This existing source is **not** a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this permit 107-12829-00037, is still not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than one hundred (100) tons per year,
- (b) a single hazardous air pollutant (HAP) is less than ten (10) tons per year, and
- (c) any combination of HAPS is less than twenty-five (25) tons/year.

This status is based on all the air approvals issued to the source. This status has been verified by the OAQ inspector assigned to the source.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) applicable to this source. The pyrolysis cleaning oven is not subject to NSPS Subpart E (40

CFR Part 60.50) and 326 IAC 12, because the paint residues being combusted do not meet the definition of solid waste as defined by 40 CFR Part 60.51(b).

- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Parts 61, 62 or 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is located in Montgomery County and the potential to emit VOC is less than one hundred (100) tons per year, therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 2-4.1-1 (New source toxics control)

Since the source has potential emissions of a single HAP and a combination of HAPs that are less than the major source levels of ten (10) and twenty-five (25) tons per year, respectively, this source is not subject to the requirements of 326 IAC 2-4.1-1.

326 IAC 4-2 (Incinerators)

The one (1) controlled pyrolysis cleaning oven shall:

- (a) Consist of primary and secondary chambers or the equivalent;
- (b) Be equipped with a primary burner unless burning wood products;
- (c) Comply with 326 IAC 5-1 and 326 IAC 2;
- (d) Be maintained properly as specified by the manufacturer and approved by the commissioner;
- (e) Be operated according to the manufacturer's recommendations and only burn waste approved by the commissioner;
- (f) Comply with other state and/or local rules or ordinances regarding installation and operation of incinerators;
- (g) Be operated so that emissions of hazardous material including, but not limited to, viable pathogenic bacteria, dangerous chemicals or gases, or noxious odors are prevented;

- (h) Not emit particulate matter in excess of five-tenths (0.5) pounds of particulate matter per one thousand (1,000) pounds of dry exhaust gas at standard conditions corrected to fifty percent (50%) excess air; and
- (i) Not create a nuisance or a fire hazard.

If any of the above result, the burning shall be terminated immediately.

326 IAC 6-3-2 (Process Operations)

- (a) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the one (1) powder paint line shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

- (b) The particulate matter (PM) from the six (6) welding stations shall not exceed 3.38 pounds per hour when operating at a process weight rate of 1,500 pounds per hour.

This limitation is based on the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

The PM emissions from the six (6) welding stations are 0.246 pounds per hour which is less than the allowable PM emission rate of 3.38 pounds per hour. Therefore, the six (6) welding stations are in compliance with this rule.

326 IAC 8-1-6 (New Facilities; General Reduction Requirements)

The potential VOC emissions from the one (1) roll coating process, which began operation in June of 1987, are less than twenty-five (25) tons per year. Therefore, the requirements of this rule are not applicable.

326 IAC 8-2-9 (Miscellaneous Metal Coating)

Since the one (1) roll coating process began operation in June of 1987, and the potential to emit of VOC from the process is less than twenty-five (25) tons per year, this facility is not subject to the requirements of this rule.

Conclusion

The operation of this metal lighting fixture manufacturing and coating source shall be subject to the conditions of the attached proposed **Registration 107-12829-00037**.

**Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations**

Page 1 of 5 TSD App A

Company Name: Lithonia Lighting
Address City IN Zip: 1615 East Elmore Street, Crawfordsville, Indiana 44933
Registration: 107-12829
Plt ID: 107-00037
Reviewer: Edward A. Longenberger
Date: October 6, 2000

Material	Density (lbs/gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (units/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC (pounds per hour)	Potential VOC (pounds per day)	Potential VOC (tons per year)	Particulate Potential (tons/yr)	lbs VOC/gal solids	Transfer Efficiency
Oak Draw 8519	6.34	100.00%	0.00%	100.00%	0.00%	0.00%	0.000928	170.000	6.34	6.34	1.00	24.00	4.38	0.00	ERR	0%
Powder Paint	13.18	1.00%	0.00%	1.00%	1.00%	99.00%	0.075988	78.860	0.13	0.13	0.79	18.96	3.46	17.12	0.13	95%

State Potential Emissions

Add worst case coating to all solvents

PM

Control Efficiency

0.00%

Uncontrolled

1.79

43.0

7.84

17.1

Controlled

1.79

43.0

7.84

17.1

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lbs/gal) * Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lbs/gal) * Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lbs/gal) * Gal of Material (gal/unit) * Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lbs/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lbs/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)

Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) * (8760 hrs/yr) * (1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)

Total = Worst Coating + Sum of all solvents used

Appendix A: Welding and Thermal Cutting

Page 2 of 5 TSD App A

Company Name: Lithonia Lighting
Address City IN Zip: 1615 East Elmore Street, Crawfordsville, Indiana 44933
Registration: 107-12829
Plt ID: 107-00037
Reviewer: Edward A. Longenberger
Date: October 6, 2000

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)		EMISSION FACTORS * (lb pollutant / lb electrode)				EMISSIONS (lb/hr)				TOTAL HAPS (lb/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
WELDING												
Submerged Arc	0	0		0.036				0.000	0	0.000	0	0.000
Metal Inert Gas (MIG)(ER5154)	6	1.7		0.0241	0.00003		0.00001	0.246	0.0003468	0.000	0.000102	0.000
Stick (E7018 electrode)	0	0		0.0211				0.000	0	0.000	0	0.000
Tungsten Inert Gas (TIG)(carbon steel)	0	0		0.0055				0.000	0	0.000	0	0.000
Oxyacetylene(carbon steel)	0	0		0.0055				0.000	0	0.000	0	0.000
FLAME CUTTING	Number of Stations	Max. Metal Thickness Cut (in.)	Max. Metal Cutting Rate (in./minute)	EMISSION FACTORS (lb pollutant/1,000 inches cut, 1" thick)				EMISSIONS (lbs/hr)				TOTAL HAPS (lb/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Oxyacetylene	0	0	0	0.1622	0.0005	0.0001	0.0003	0.000	0.000	0.000	0.000	0.000
Oxymethane	0	0	0	0.0815	0.0002		0.0002	0.000	0.000	0.000	0.000	0.000
Plasma	0	0	0					0.000	0.000	0.000	0.000	0.000
EMISSION TOTALS								PM = PM10	Mn	Ni	Cr	Total HAPs
Potential Emissions lbs/hr								0.246	0.0003	0.00	0.0001	0.0004
Potential Emissions lbs/day								5.90	0.008	0.00	0.002	0.011
Potential Emissions tons/year								1.08	0.002	0.00	0.0004	0.002

METHODOLOGY

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column. Consult AP-42 or other reference for different electrode types.

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Cutting emissions, lb/hr: (# of stations)(max. metal thickness, in.)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 1" thick)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/day x 1 ton/2,000 lbs.

Plasma cutting emission factors are from the American Welding Society study published in Sweden (March 1994).

Welding and other flame cutting emission factors are from an internal training session document.

See AP-42, Chapter 12.19 for additional emission factors for welding.

Appendix A: Emission Calculations Incinerator

Page 3 of 5 TSD App A

Company Name: Lithonia Lighting
Address City IN Zip: 1615 East Elmore Street, Crawfordsville, Indiana 44933
Registration: 107-12829
Plt ID: 107-00037
Reviewer: Edward A. Longenberger
Date: October 6, 2000

THROUGHPUT
 lbs/hr
 20

THROUGHPUT
 tons/yr
 87.6

Emission Factor in lb/ton	POLLUTANT				
	PM	SO2	CO	VOC	NOX
	7.0	2.5	10.0	3.0	3.0
Potential Emissions in ton/yr	0.307	0.110	0.438	0.131	0.131

Methodology

Emission factors are from AP 42 (5th Edition 1/95) Table 2.1-12, Uncontrolled emission factors for industrial/commercial refuse combustors, multiple chambers

Throughput (lb/hr) * 8760 hr/yr * ton/2000 lb = throughput (ton/yr)

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

Page 4 of 5 TSD App A

Company Name: Lithonia Lighting
Address City IN Zip: 1615 East Elmore Street, Crawfordsville, Indiana 44933
Registration: 107-12829
Plt ID: 107-00037
Reviewer: Edward A. Longenberger
Date: October 6, 2000

Unit ID	Capacity
	(mmBtu/hr)
B1	1.944
B2	1.646
B3	1.5
A1	1.925
A2	2.0
A3	2.0
A4	0.95
A5	2.5
A6	3.8
A7	3.5
A8	2.0
Total	23.765

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

23.765

208.18

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.198	0.791	0.062	10.4	0.572	8.74

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 5 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
HAPs Emissions

Page 5 of 5 TSD App A

Company Name: Lithonia Lighting
Address City IN Zip: 1615 East Elmore Street, Crawfordsville, Indiana 44933
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HAPs - Organics

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	2.186E-04	1.249E-04	7.807E-03	1.874E-01	3.539E-04

HAPs - Metals

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	5.205E-05	1.145E-04	1.457E-04	3.955E-05	2.186E-04

Methodology is the same as page 4.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.